

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP2004/014520

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 B01J8/02 F28D9/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 IPC 7 B01J F28D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 869 011 A (LEE JING MING) 9 February 1999 (1999-02-09) column 6, line 49 - column 7, line 38; figures	1-4, 6, 9, 10
A	EP 1 221 339 A (METHANOL CASALE SA) 10 July 2002 (2002-07-10) the whole document	1-10
A	DE 855 258 C (ICI LTD) 10 November 1952 (1952-11-10) page 2, line 92 - line 117; figures	1
A	WO 94/12274 A (SHELL CANADA LTD ; SHELL INT RESEARCH (NL)) 9 June 1994 (1994-06-09)	
A	DE 39 16 337 A (SCHMITT UWE) 4 October 1990 (1990-10-04)	



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

6 April 2005

Date of mailing of the international search report

13/04/2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
 Fax: (+31-70) 340-3016

Authorized officer

Vlassis, M

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP2004/014520

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 5869011	A	09-02-1999	US	5520891 A	28-05-1996
EP 1221339	A	10-07-2002	EP	1221339 A1	10-07-2002
			AT	290427 T	15-03-2005
			BR	0116729 A	23-12-2003
			CA	2433775 A1	11-07-2002
			EG	23139 A	28-04-2004
			WO	02053276 A1	11-07-2002
			EP	1347825 A1	01-10-2003
			US	2002088613 A1	11-07-2002
DE 855258	C	10-11-1952	NONE		
WO 9412274	A	09-06-1994	AU	5563394 A	22-06-1994
			WO	9412274 A1	09-06-1994
			ZA	9308618 A	04-08-1994
DE 3916337	A	04-10-1990	DE	8903281 U1	27-04-1989
			DE	3916337 A1	04-10-1990